

WESTON LEA LIMITED
AMBERFIELD APPLICATION FOR SUBDIVISION AND LAND USE CONSENTS FOR DEVELOPMENT
RESOURCE CONSENTS No: 010.2018.00009853.001 & 011.2018.00006695.001
RESPONSE TO HAMILTON CITY COUNCIL SECTION 92 REQUEST FOR FURTHER INFORMATION
17 AUGUST 2018

This table is the head document for the response for further information as detailed in the Hamilton City Council request of 5 July 2018. For some items, the response is found within the body of the table. For other items, the table refers to an appendix for the detailed response. The source of the response is found within the appendix, or indicated in the body of the table. In all cases, the responses are to be read in conjunction with the information in the application.

S92 ITEM	RESPONSE
Stormwater Management Effects and ICMP Requirements	
<p>BPO Options Assessment</p> <p>1. The Stormwater BPO Options Assessment indicates that the selected BPO <i>“Can have occasional additional larger system near river terrace where feasible (if desired).”</i> This would have potential advantage in considering lower lifecycle costs for device maintenance etc. Please confirm where these additional larger systems are feasible on the site and their implication on the treatment train, operation and maintenance, efficiencies, and the resultant flow profiles for the receiving environments.</p>	<p>See Appendix J</p> <p>The application document contained a SC-ICMP including a BPO stormwater management system that responded to the District Plan objectives of disposal as near as possible to source and maintaining the pre-development hydrological cycle as far as practicable. The information in Appendix J responds to the Hamilton City Council’s request, as asset manager, to consider an alternative approach where some reliance is placed on communal devices. The applicant considers that either approach could be implemented and that each approach is able to meet the discharge standards for stormwater flow and quality. It is envisaged that further discussion with Council Officers on the two options will lead to the adoption of a preferred option.</p>
<p>Rainwater Reuse System (Rain Tanks)</p> <p>2. HCC Practice Note HCC-02 provides guidance on requirements for rainwater reuse system (rain tanks). Please confirm or modify the proposed on-lot water efficiency measure in the Sub-Catchment ICMP (Appendix N) proposing Rain Tanks to align with the Council’s practice note requirements:</p>	<p>See Appendix J</p>

<ul style="list-style-type: none"> a. Re-use for laundry and toilet flushing required b. Below ground tanks to require additional measures (submersible pump, backup water supply with solenoid valve, backflow prevention from downstream surcharge) c. Roof areas only connected to tank <p>Please consider allowance for alternative configurations such as above ground rain tanks and confirm the size of the tanks.</p>	
<p>3. Subject to above, please provide alternative pre-treatment for on-lot impervious surfaces (e.g. driveways) draining to on lot soakage.</p>	<p>See Appendix J</p>
<p>Disposal Via Soakage</p> <p>4. The strategy of adopting soakage as the primary treatment and disposal method in the proposed stormwater management system is supported in principal, however as the first point in the system there are a number of potential issues relating to soakage which require further clarification to determine if the proposal can achieve the design targets and mitigate potential impacts from urban development. Please provide the following information:</p> <ul style="list-style-type: none"> i. Please provide detail on the design life, maintenance, and monitoring for efficacy of on-lot soakage devices: <ul style="list-style-type: none"> a. What is the design life? b. What are the maintenance requirements? c. What compliance testing/monitoring is required? d. What contingencies are available if compliance testing of soakage shows failure? ii. Please provide a proposed testing methodology to confirm post-development infiltration rates for on-site soakage. This methodology should be integrated with geotechnical acceptance testing methods. iii. Please also confirm the contingency sizing or 	<p>See Appendix J</p>

<p>alternatives for stormwater management that could be adopted if on-lot infiltration rates cannot be met at time of construction.</p> <p>iv. What is the design life of the public soakage devices? i.e. in greater detail than “<100 years”. Is it likely that the soakage will be renewed along with bioretention renewals?</p> <p>v. Please provide confirmation that 10-year soakage capacity for public systems is optimal considering lifecycle (design life, maintenance and renewals) vs the desired hydrology in the receiving waters based on post development flow assessment.</p> <p>HCC does not want to incur the additional cost and complexity for an oversized asset system if it is not required. The presence of a secondary piped system would indicate that the 10-year level of service for the road and connected catchment drainage could be met by adopting a lower design ARI for soakage such that soakage plus secondary pipe capacity meets the 10-year LOS. This should consider the option of reducing the size of the subsurface soakage from the public bioretention that is currently extending beneath footpaths.</p>	
<p>Counterfort Drains</p> <p>5. Provide more detail on the installation methodology; e.g. will the lower sections of the counterfort drains be installed via open trench with directional drilling at the slopes?</p>	<p>See Appendix I</p>
<p>6. What impacts will private soakage and counterfort drains have on each other where they overlap?</p> <p>a. Has counterfort drain sizing considered additional (and continued) loading from private soakage devices? How?</p> <p>b. What is the design life of the counterfort drains?</p> <p>c. Describe the potential for premature clogging of counterfort drains (particularly for sections installed via</p>	<p>See Appendix I</p>

directional drilling) d. What is the soakage potential for private soakage devices after counterfort drainage design life is exceeded?	
7. Please address the potential for preferential flow (piping) of groundwater from soakage devices to counterfort drains and any mitigation proposed; particularly for sections installed via directional drilling.	See Appendix I
8. What outfall structures are proposed for each counterfort drain?	See Appendix I
9. What inspections and maintenance procedures are required for counterfort drains?	See Appendix I
Post-development flow assessment 10. The Sub-Catchment ICMP does not include a quantitative assessment of the change in impervious areas and flows between pre-development and post-development scenarios including changes to baseflow, frequent storm, and 2, 10, and 100-yr ARI events. Please provide a clear statement of the proposed change in flows, including sensitivity analysis for the elements of the proposal that have ability to change influence on the hydrograph including: a. Areas of road too steep for soakage b. Locations where larger centralised devices may be more appropriate c. Allowance for loss of soakage capacity over time d. Change to site infiltration from earthworks and compaction	See Appendices I and J
11. Please provide any specific requirements to preserve the infiltration capacity of soils for pervious areas subject to earthworks and re-compaction across the site used in addressing 10 above including statement of testing required or contingency in sizing of downstream devices.	See Appendices I and J

12. Please assess the likely impact of any increase or reduction in the hydrograph on streams.	See Appendix J
Flooding 13. Please provide details on how overland flow from events exceeding capacity of on-lot soakage devices will safely travel to the road reserve within appropriate easements or public land areas.	See Appendix J
14. Please confirm that the relevant devices, pipes and overland flow paths are designed for the inflow catchment from across Peacockes Road to the south of the site.	See Appendix J
15. Please confirm the depth and velocity of overland flow for the proposed development for the 1% AEP event.	See Appendix J
16. Please confirm the 1% including climate change Waikato River flood levels at key locations across the development (indicated as a range from 19.5 to 20.1mRL).	See Appendix J
17. Please confirm the basis of the 1m freeboard adopted to assume a climate change, how is this an appropriate representation of a scientifically predicted increase in rainfall.	See Appendix J
18. Please provide a risk assessment of the Karapiro dam break scenario on the proposed development in terms of lifelines and safe evacuation.	See Appendix J
19. Please provide an assessment of the infilling of the Waikato River 1% ARI + Climate Change Floodplain impacting on river flood flows and levels if any.	See Appendix J
Stormwater outfalls 20. Outfalls from the piped stormwater network represent a significant component of the system, yet have not been addressed in sufficient detail to demonstrate their potential impacts on the receiving environment (streams and Waikato River), including the options considered to avoid those impacts. Outfalls that discharge to steep slopes with no pre-existing watercourse structure represent an erosion risk and multiple outfalls in remote locations at the	See Appendix J

<p>bottoms of banks are difficult to access for monitoring and maintenance.</p> <p>Please provide an assessment of the option of consolidation and adjustment of outfalls to discharge to streams within existing catchment flow path patterns. For example, the large number of outfalls proposed from the island and Watercourse 3 should be reconsidered.</p> <ol style="list-style-type: none"> a. Outfalls 29/1, 6/1, and 5/1 could discharge to a consolidated outfall to existing watercourses (Watercourse 4 and 5). What is the likely impact to hydrographs from the discharge of stormwater to the receiving streams? b. Outfalls 16/1 and 17/1 could be discharged to the paleo-channel structure draining to culvert 1. c. Outfalls 1/1 and 3/1 could be combined to discharge to the invert of the channel at the outlet of culvert 1. d. Outfall 12/1 could discharge to the bottom of bank. 	
<p>21. The alternative of “Aquasock” geotextile socks are not supported as a permanent solution in these Waikato riverbank locations for on-going maintenance reasons. Please confirm alternative erosion mitigation at outfalls along the Waikato River and tributary streams such as soft engineering and planting plans.</p>	<p>See Appendix J</p>
<p>22. Please confirm the following details regarding proposed outfalls:</p> <ol style="list-style-type: none"> a. Design elements proposed to protect outfalls against damage and/or backflow from flood flows in the Waikato River. b. Operation and maintenance considerations; <ol style="list-style-type: none"> i. including but not limited to access for maintenance staff and vehicles/plant ii. inspection programme c. Estimated stormwater quantities for each stormwater 	<p>See Appendix J</p>

<p>outfall.</p> <p>d. Presence of existing erosion downstream of outfall locations.</p>	
Construction Effects	
<p>23. What are the environmental impacts of constructing the stormwater outfalls?</p> <p>a. How will construction sites be established on banks of the Waikato River to construct outfalls?</p> <p>b. What is the proposed construction area for each outfall site? Vegetation removal required?</p> <p>c. Sediment entrainment pre- and post-physical works</p> <p>d. Re-establishment requirements, earthworks, planting, etc.</p>	See Appendix J
<p>24. What are the environmental impacts of directional drilling of counterfort drains?</p> <p>a. What methods will be employed to prevent preferential flow of groundwater along annulus of drain pipes?</p> <p>b. How will drilling mud and any temporary discharges be managed during directional drilling works?</p>	See Appendix I
<p>25. Please assess the efficiency of the temporary erosion and sediment management during the interim period when sediment ponds have been decommissioned and while raingardens are blocked off and discharges are directly connected to the outfalls to the streams and Waikato River. Are there any additional measures such as on lot controls, monitoring or end of pipe treatments proposed to manage this temporary effect.</p>	See Appendix J
<p>26. What considerations have been made regarding the sensitivity of receiving environment to sediment discharge from construction outfalls and directional drilling outlets? Please detail any required mitigation measures.</p>	See Appendix J
Operation and Maintenance	See Appendix J

<p>27. Please provide greater detail on operations and maintenance protocols proposed for each stormwater device, including design life, inspection schedule, infiltration testing, cleaning/maintenance, and expected replacement schedule:</p> <ol style="list-style-type: none"> Private on lot re-use tanks Private on lot soakage devices Public road soakage Public road rain gardens Comment on feasibility and methods to repair/replace soakage devices; private and public 	
<p>Wastewater Management</p>	
<p>28. The ICMP (Appendix N) identifies the Best Practical Option (BPO) for wastewater management for the development as being connection of gravity reticulation wastewater system to the existing Far Eastern Interceptor near Crosby Road, based on the Wastewater Disposal Report assessment (Appendix L), and states <i>'The Amberfield development is therefore being progressed through the planning process on the basis of the preferred Eastern Option being implemented by Weston Lea Ltd, in co-operation with Council.'</i></p> <p>Section 3 of the AEE report describes the proposed subdivision and development and in Section 3.7 Wastewater describes the Far Eastern Interceptor connection as the proposed method for the management of wastewater for the development, but also refers to an alternative of connection to the Western Interceptor. Again, in Section 5.8 Effects on Water Quality the assessment states <i>'whether the transmission network adopts the Far Eastern Interceptor or the Western Interceptor option, the system has been designed to avoid any network overflows to the river. This has been through adopting an overall adequate system capacity, with peak</i></p>	<p>See Appendix J</p>

<p><i>storage provision as necessary.</i> To avoid any uncertainty in assessing the effects of the proposal, please confirm that the proposed development and subdivision is being proposed and is to be assessed on the basis of the wastewater management system being connected to the Far Eastern Interceptor, in accordance with the BPO in the ICMP.</p>	
<p>Geotechnical/ICMP Requirements</p>	
<p>Ground Conditions 29. Section 11.2 of the Interim Geotechnical Investigation Report (Appendix J) states that <i>'expansive soils are not considered to be an issue identified on-site'</i>, however, HA01 is logged as clay and the laboratory tests appear to indicate they are potentially expansive. Please confirm if expansive soils are an issue for the site and identify the mitigation of the potential effect of these soils if required.</p>	<p>See Appendix I</p>
<p>30. The Interim Geotechnical Investigation Report makes no specific reference to the bridge and culvert that cross the gully to the Island area. Please comment on the suitability of the ground conditions for the bridge and culvert structures.</p>	<p>See Appendix I</p>
<p>Seismic Hazard 31. The MBIE document for 'Planning and Engineering Guidance for Potentially Liquefaction-Prone Land' recommends that a 500 year return period event is considered as the minimum earthquake scenario for a liquefaction assessment. However, the Interim Geotechnical Investigation Report has only considered a 150 year return period event [Section 12.3] for the majority of the CPT at the site, and the reason for this has not been sufficiently justified. While there are good reasons to consider the shorter 150 year return period event for liquefaction analyses, such as identifying when the onset of liquefaction related land damage may occur, the higher</p>	<p>See Appendix I</p>

<p>level of earthquake shaking associated with the 500 year return period event should be used as the primary screening tool for liquefaction risk. Furthermore, as outlined in Section 4.3.4 of the MBIE guidance document, consideration should also be given to longer return period events of low probability to understand whether or not there is a large step change worsening of land performance compared to the 500 year scenario. Please provide a liquefaction assessment against a 1 in 500 year case for the whole site.</p>	
<p>32. Liquefaction and lateral spreading risks have only been considered for the point locations where investigations were undertaken (Section 12.4). Consideration of the liquefaction risk across the entire site is required to fully understand the risk. Please provide a consideration of liquefaction risk across the whole site.</p>	<p>See Appendix I</p>
<p>33. The liquefaction assessment appears to have been undertaken at the site by considering the current ground surface elevation rather than the proposed finished ground surface elevation for the subdivision. However, changes in ground surface elevation can have a significant effect on the liquefaction vulnerability. Section 106 of the RMA requires an assessment of the manner in which the use of the land for which the consent is sought could worsen the risk from natural hazards and consideration of the proposed ground surface elevation rather than the current ground surface elevation is an important aspect of this. Please provide an assessment of the liquefaction risk for the proposed ground contours.</p>	<p>See Appendix I</p>
<p>34. While the Interim Geotechnical Investigation Report identifies the presence of pumiceous silts and sands on the site and has identified the challenges associated with assessing the liquefaction potential of pumice soils there are some concerns about how this has been addressed.</p>	<p>See Appendix I</p>

Shear wave velocity techniques can be seen to under-predict the amount of liquefaction-induced ground movements. Please provide further analysis and discussion on the liquefaction potential of pumiceous soils.	
35. Due to the complexity of the liquefaction hazard, including the difficulties in predicting liquefaction in pumiceous soils, please provide a peer review of the liquefaction assessment by an appropriately qualified geotechnical engineer.	See Appendix I
Slope Stability 36. The slope stability assessments appear to use the soil models given in the geological sections in Appendix 8 of the Interim Geotechnical Investigation Report. These cannot be reviewed effectively without the borehole information superimposed. The assessment makes an assumption that the hard layer encountered at the base of the CPT investigations is continuous with depth (Section 13.1). It is not possible to review this claim as the data has not been provided and it is not clear what the geological unit is. The geological units in question are highly variable so the assumption that this layer is continuous with depth is not necessarily sound and should be justified. Please provide substantiation for assumptions made in the geological model.	See Appendix I
37. The undrained shear strength of the soft to firm SILT is marked as 35 kPa (Section 13.1 -Table 13), however, the slope stability sections use 50 kPa (Appendix 7). Please confirm undrained shear strength for soft to firm silt and re-run the slope stability assessment if required.	See Appendix I
38. No Liquefied case has been considered in the slope stability assessment. Please consider a liquefied case for the slope stability assessment.	See Appendix I
39. It is understood that counterfort drains are required in some areas to maintain a minimum factor of safety of 1.5 against instability. The current stormwater drawings	See Appendix I

<p>(Appendix W) appear to show combined stormwater and subsoil/counterfort drains. The Interim Geotechnical Investigation Report detail for counterfort drains (Appendix 8c) show a trench construction as expected for this type of drain. The stormwater drawings show a bored drain. Please confirm that the subsoil/counterfort drains and stormwater drains are separate design items to maintain the 1.5 factor of safety.</p>	
<p>40. The assessment has considered slope stability for the proposed development and suggested potential mitigation to achieve acceptable factors of safety. Slope stability analyses should be repeated in the event of any changes to the parameters quoted in Section 13.1 – Table 13 or any changes to the proposed levels and/or slope angles in response to the further information requests.</p>	<p>See Appendix I</p>
<p>Transportation</p>	
<p>Traffic Modelling and Traffic Generation <u>Basis of Modelling / Trip Generation/ Network Impacts</u> 41. Please provide a summary showing the basis for traffic modelling. The summary should include as a minimum:</p> <ol style="list-style-type: none"> a. levels of development in base and scenarios – e.g. households/jobs by zone and year, b. growth assumptions – e.g. level of development at airport, c. Amberfield proposal assumptions (including timing / staging) and how these relate to years / modelling periods. d. Expected changes in network performance for key intersections: <ol style="list-style-type: none"> i. Peak period delay/vehicle, queue lengths; ii. Change plots or tables showing which roads generated traffic is expected to use (preferably with pictures highlighting impact on performance. 	<p>See Appendix L</p>

<p>The additional information is required to accurately assess the likely changes in traffic due on the network due to the development, the suitability of proposed intersections and if any further network changes are necessary to accommodate the increased traffic and / or mitigate the effects.</p>	
<p>42. Section 1.1 of the ITA states the main basis of the assessment relies on a significant transportation assessment undertaken in 2016 when three reports were produced by TDG using the 2006-based Waikato Regional Transportation Model to assess the effects of the proposed subdivision. For completeness please provide a copy of these reports.</p>	<p>See Appendix L</p>
<p><u>Basis of Modelling / Trip Generation/ Network Impacts</u> 43. Please review the Integrated Transportation Assessment (ITA) modelling against the WRTM 2013 modelling prepared for HCC (which HCC will provide access to). The additional information is required to confirm consistency with NZTA and HCC's current basis for investment decisions.</p>	<p>See Appendix L</p>
<p><u>Modelling Accuracy / Sensitivity Checks</u> 44. Section 8.3 of the ITA (Appendix I) states that mitigation is expected to be required at the Normandy Ave / Lorne Street intersection when the Amberfield Subdivision is around 80% complete. Gray Matter Ltd SIDRA modelling (HCC will provide) suggests that the Bader Street/Lorne Street/Normandy Ave combined intersection performs significantly worse than the WRTM evaluation and has little reserve capacity. The Gray Matter Ltd modelling outcomes appear to be worse than sample observations suggest is happening in reality. Please review the intersection performance modelling (ITA, WRTM and Gray Matter Ltd</p>	<p>See Appendix L</p>

<p>SIDRA) and comment regarding the discrepancy / difference in modelling outcomes between SIDRA, WRTM 2013 and current observations.</p> <p>This information is required to resolve the discrepancy and ensure confidence in the mitigation measures and timing / thresholds proposed.</p>	
<p>Safety</p> <p>45. Please assess the predicted changes in crash risk on the Peacocke to Bader Street Corridor and Bader Street intersection, and the potential for death and serious injury (DSI's) before and after following the development of the Amberfield subdivision.</p>	<p>See Appendix L</p>
<p>46. It is understood the ITA relies on planned network changes that aim to address existing safety issues and to mitigate the safety impacts of the development proposed in Peacockes 1A and the Amberfield Development. Please confirm this understanding is correct. Otherwise please include the impact of the Amberfield development on safety should these network changes not proceed before Amberfield is developed and how the effects will be mitigated.</p>	<p>See Appendix L</p>
<p>Other Network Changes</p> <p>47. The ITA mentions other planned changes to the transport network that will reduce the adverse effects of the development on the transport network. Please provide an update on projects now that HCC 10 Year Plan (eg. ITA Section 8.4 HIF proposals) has been approved that may mitigate Amberfield effects in relation to the likely development timing and staging.</p> <p>This information is needed to better understand the likelihood and impact of a delay in planned projects on the</p>	<p>See Appendix L</p>

proposed development, the ability of the network to accommodate the increase in traffic and interim effects.	
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<p>Road and Stormwater Design</p> <p>48. The proposed development includes roads narrower than the desirable minimums in District Plan Table 15-7a. Please identify the departures from the typical standards so the consequences on operation and servicing can be understood. This information is required so that the implications for detailed design are resolved as part of the consent process.</p>	<p>See Appendix J</p>
<p>49. The ITA states that to reduce the number of intersections along Peacockes Road and to achieve appropriate separation between intersections, some properties between the north-south local road and Peacockes Road will be served by either cul-de-sacs or accessways to rear lots. Two of the proposed cul-de-sacs will have the head of the cul-de-sac adjacent to Peacockes Road. The Urban Design Report (Appendix D) states that connectivity between Peacockes Road and the two cul-de-sac roads will be for pedestrians (and cyclists) only, and from an urban design perspective will provide visual connections from Peacockes Road into the site. Please provide a concept design for the landscape treatment (hard and soft landscaping) and the pedestrians connection taking into account the level difference between the roads and available land area outside the carriageway and footpath to better understand the urban design outcome.</p>	<p>See Appendix J</p>
<p>Construction Traffic Effects</p> <p>50. The ITA does not include details regarding how construction traffic will be managed. Please state how heavy vehicles will be managed to minimise use of residential access routes, including which site access(s) will be used for construction traffic and how heavy traffic safety will be considered, particularly at the Raynes Road intersection.</p> <p>This information is required to ensure that construction</p>	<p>See Appendix L</p>

<p>impact on other transport network users will be minimised.</p>	
<p>Travel Demand Management 51. The ITA outlines provision for passenger transport and active modes. Please state whether there are any specific travel demand management measures planned as part of the development for example for the proposed centre. Include a statement on the likely effectiveness of any TDM measures planned.</p>	<p>See Appendix L</p>
<p>Compliance with policy and other frameworks 52. The ITA indicates support for regional and national transport policies. Please expand the comments to include assessment against Access Hamilton and associated action plans as required for a Broad ITA in the District Plan. This is required to demonstrate the extent to which the proposal is consistent with HCC's local objectives and plans.</p>	<p>See Appendix L</p>
<p>Proposed Mitigation 53. Please list / summarise proposed mitigation measures.</p>	<p>See Appendix L</p>
<p>Landscape/Visual Effects</p>	
<p>While the Landscape and Visual Effects Assessment (Appendix E) provides a detailed description of the existing landscape context, the site and the proposed development, the associated analysis of landscape and visual effects is relatively brief by comparison. The assessment does not define the spatial extent of the potentially affected visual catchment or contain sufficient detail to indicate how the various assessment factors identified in the methodology have been used to rate effects. Inspections of the identified viewing audience catchment areas (Peacockes Road, opposite banks of the Waikato River, and elevated rural areas), indicates that the nature and range of effects within each grouping will be highly varied. The reporting is not sufficiently detailed in this regard</p>	

<p>to allow the identification of the parts of the visual catchments where effects will potentially be greater.</p>	
<p>54. To gain a more detailed understanding of the location where effects on landscape and visual amenity are greatest the following information is requested.</p> <p>a) Identification of the extent of the visual catchment and a more detailed analysis of the range of effects within.</p> <p>Identification of the extent of the overall visual catchment and a refinement in the descriptive analysis of how the identified viewing audiences may be affected in different parts of the catchments is required to allow effects on landscape and visual amenity to be better understood. In particular, the additional information should identify any locations within the visual catchment that are more affected than others, and identify the key landscape and visual attributes that are potentially affected by the application. Any differences in the effects ratings given in the report, due to differences in viewer orientation towards the site, extent of the proposed development visible, differences in the composition or characteristics of views, differences in the various factors that contribute to landscape and visual amenity in different parts of the site, should be explained (e.g. differences between the effects from the Riverlea/River walkway area to the north of the site as compared with rural/residential development within Tamahere to the east). Further analysis from on the Waikato River itself is not required.</p> <p>The additional information requested above should be accompanied by a map indicating the extent of the visual catchment.</p>	<p>See Appendix A</p>

<p>It is strongly recommended that photomontages (or a digital model) that show the changes that will occur from representative vantage points on the other side of the Waikato River (north and east of the application site) are also prepared. This is because the visual amenity associated with the site differs significantly from these locations. The provision of photomontages would help communicate the changes that will occur to potentially affected viewers and provide further support for the descriptive analysis and rating of effects.</p>	
<p>55. The assessment of the landscape effects identifies the key landforms and features within the site to be retained but does not provide sufficient information to fully understand how the balance of the existing natural landform (that will be modified by earthworks) will change. The preliminary earthworks cut and fill plans provide some detail, however the information is not in a format that allows an easy comparison between the existing and proposed landform to readily understand the change. Please provide:</p> <p>a) Analysis of the proposed landform modifications against the relevant assessment criteria in the District Plan.</p> <p>Further analysis (from a landscape effects perspective) is required to explain how the proposed earthworks design addresses the provisions of the District Plan that relate to the retention of the underlying landform and the structure plan (Terrace/Gully/Hill Areas). The provision of a set of earthworks plans (or 3D model) that combined the existing and proposed contours, over the earthworks cut and fill plans (Harrison Grierson Plans 141842-1201 to 141842-1206) would assist in communicating the extent of change</p>	<p>See Appendix A</p>

that is likely to occur.	
Contaminated Soil Effects	
56. The PSI prepared by Environmental Scientist Courtney Armstrong and reviewed by Associate Environmental Engineer Erica McDonald (Appendix K) does not contain a statement of the certifier’s capabilities qualifying them as a Suitably Qualified Experience Practitioner (SQEP) to undertake the contaminated land site investigation. Please provide the certifier’s statement confirming that the report has been prepared by a SQEP in accordance with the NES requirements for Assessing and Managing Contaminants in Soil to Protect Human Health.	See Appendix I
Open Space/Recreation Areas	
57. The AEE assessment of the objectives and policies in the Peacocke Structure Plan (in particular 3.4.1.11 and 3.4.1.11a, b and c) indicates that the proposal is consistent with these objectives and policies, however the application itself does not include the land (shown indicatively in the southern part of the application site) required for the sports park as reserve to vest in Council. The subdivision plans show the indicative location as proposed residential lots. Pre-application discussions have consistently requested the sports park be provided in the proposed development. Please show the sports park to be vested in Council or if not clarify how the application is consistent with the Peacockes Structure Plan and relevant objectives and policies.	<p>Section 3.11.3 of the AEE sets out the applicant’s proposals for the sports park to be located in the southern development neighbourhood. As you point out, the scheme plan does not currently show the sports park, but instead shows proposed residential lots. The responses in Appendix A (to Objective 3.4.1.11 and related policies) are based on the assumption that the park is provided. However, the provision of the park is contingent on Council initiatives in purchase and development. Resolution of this matter therefore needs to take the following matters into account.</p> <p>Council has two roles in this matter, that of a sport and recreation asset manager and that of a regulatory authority under the Resource Management Act 1991. The first of these roles requires it to establish a need for the sports park and to directly negotiate with the landowner for the purchase of the park. The indication of a green triangle on the structure plan and the expressed objectives in the Structure Plan do not comprise a firm commitment by the Council as asset manager to purchase the park or a requirement to vest the land in Council. The landowners have received no such commitment, hence the reluctance to show the sports park in the scheme plan. An action is clearly required here by the Council to advance this matter to the point that the land should vest pursuant to the scheme plan.</p> <p>In its RMA decision-making role, the Council must be satisfied that, in resource management terms, the taking of 7ha of land in this location within the zone is the</p>

	<p>most appropriate use of the land. The Council, as decision-maker, will need evidence from the Council, as asset owner, that this is the case. It is anticipated that the Council evidence would be made available to the applicant and potentially presented to the forthcoming hearing for the Independent Commissioners to consider. This evidence would need to contain details of the Council's city-wide provisions of sports parks of the scale envisioned not just within the scheme plan area, but also the second green triangle location to the north, population projections for the proposed parks' catchment area, the types of active recreation uses generating the need for the parks, and consideration of alternatives.</p> <p><i>[Response prepared by Merestone Limited]</i></p>
<p>58. The existing knoll (highest point of the site) has in part determined the location for the northern neighbourhood park (lot 1506) because of the views afforded of the surrounding area and Waikato River for the public. To ensure this visual amenity is protected a viewshaft assessment is required to illustrate any impact from future dwellings on lots 147-158 (at permitted building heights) on the view south of the reserve, in particular the view south to the river, and if any restrictive height covenants are necessary on these lots to maintain the visual amenity of the proposed park.</p>	<p>See Appendix A</p>
<p>59. The Landscape and Visual Effects Assessment (Appendix E) states that the northern neighbourhood park has been configured to adjoin on three sides a large lot (Lot 25 – 3641m²) to enable the provision of a café and initially the sales office for the Amberfield Development. Given that no consents have been sought for these activities as part of the land use application, it is to be assessed as a residential lot comprising an existing dwelling proposed to be retained. The assessment states that <i>'no further more intensive residential use, or subsequent further subdivision, is intended on this lot.....The applicant proposes to establish a legal covenant on the title of the lot preventing future</i></p>	<p>See Appendix K</p>

<p><i>subdivision in order to protect the amenity of the surrounding park and the intended synergy between the highly attractive neighbourhood park and the café.'</i></p> <p>Please provide a draft wording of the proposed covenant and confirmation that the proposed mechanism (legal covenant) is adequate to ensure that the proposed lot 25 will only accommodate a sales office/café activity (subject to obtaining consents), and will be an adequate mechanism to ensure no greater intensity in use occurs, which may be incompatible with the reserve.</p>	
<p>60. The Knoll Park Landscape Concept Plan (OSF 23 – Appendix F) shows a proposed boardwalk across the steep eastern bank below Lot 25. To provide a more practical and accessible access for all users through the park please consider relocating the path to the top of the bank within Lot 25 and adjust the boundary accordingly.</p>	<p>See Appendix A and Appendix O for the plan</p>
<p>61. Please advise if there are to be any services in Lot 1505 (shown as Local Purpose Reserve (Pedestrian Access)). If not, Council will require this lot to be amalgamated with lot 1506 (neighbourhood reserve) and vest as recreation reserve.</p>	<p>See Appendix J</p>
<p>62. To achieve good urban design and CPTED outcomes for the recreation reserves and walkways where adjoining proposed residential lots, please advise which residential lots should have restrictive fence heights.</p>	<p>See Appendix A</p>
<p>63. The Walking and Cycling Strategy Plan (OFS 05 – Appendix F) shows the location of the shared paths through Open Space. The Plan shows a considerable length of path within the Waikato riverbank open space area (an indicative location also appears to be depicted on the subdivision plans). A significant part of this area is identified as Waikato Riverbank and Gully Hazard Area in the District Plan. The AEE states that the exact location of the path will be</p>	<p>See Appendix A</p>

<p>addressed at detailed design to address accessibility, safety and security aspects. Whilst the use of this area for walkways and cycle paths are permitted there are controls on the extent of vegetation removal and earthworks. Please provide a level of design to demonstrate the location of the path can be safely accommodated in a manner resilient to instability with an assessment of the estimated volume of required earthworks and the extent and nature of vegetation removal required to construct the path.</p>	
<p>64. Please provide confirmation of any retention, restoration, or enhancement of vegetation proposed for open space areas as mitigation of ecological effects of the proposal, including clarity on bat habitat to be retained on proposed open space to be vested in Council, and any on-going obligations. This will ensure any conflict between future use of open space and required protection of ecological values is understood and avoided.</p>	<p>Refer Appendix M</p>
<p>Archaeological Effects</p>	
<p>65. Section 4.2 of the Archaeological Values and Effects Assessment (Appendix Q) sets out information on the geotechnical test pit monitoring undertaken across the site. To assist with understanding the location and findings of the test pits relative to the archaeological sites, please overlay Figure 29 (Geotechnical test pit locations) with the archaeological site outlines and numbers.</p>	<p>Refer Appendix C</p>
<p>66. Section 6.1 of the Archaeological Values and Effects Assessment (Appendix Q) states the location of the proposed Heritage Reserve has been chosen primarily on archaeological grounds and includes a range of values (pg 51), but no robust assessment is provided to support this statement. The text does not identify the archaeological site (S14/318) which will be included in the reserve. Please provide an assessment of the heritage values of the reserve using the Waikato Regional Policy Statement Table 10-1</p>	<p>Refer Appendix C</p>

<p>criteria to justify why this area should be reserved and managed using ICOMOS conservation principles.</p>	
<p>Ecological Effects</p>	
<p>Terrestrial Ecological Effects <u>Herpetofauna</u> 67. Section 5.4 of the Terrestrial Ecological Assessment (Appendix G) on herpetofauna is based on a qualitative assessment of habitat values. No direct lizard surveys were undertaken for the reasons outlined, including that most of the direct impacts of the development are limited to highly modified farmland, where in the Hamilton area habitat suitability means populations are likely restricted to occasional copper skinks. To substantiate this view please provide a map of high risk lizard habitat (likely to be utilised by copper skink), with reference to Table 10 in Section 7.2, and identify the extent of the high-risk lizard habitat that will be lost by the proposed development.</p>	<p>See Appendix B</p>
<p><u>Bats</u> 68. Section 7.1.3 of the Terrestrial Ecological Assessment (Appendix G) on roost habitat assessment states '<i>that most of the potential bat roost trees are located in the riparian vegetation which will be maintained</i>'. Please identify on a map where potential roost trees that are to be retained are located (using the GPS coordinates recorded) and to identify how many potential roost trees are located in the project area.</p>	<p>See Appendix B</p>
<p>69. The Terrestrial Ecological Assessment (Appendix G) has identified that the risks to long-tailed bats from the project are "Very High". The effects on bats are likely to be significant and may stop this critically endangered species migrating or utilising known important habitats along the Waikato River, within Stanford Park and Hammond Park, which are located directly adjacent to the project site across the Waikato River. Section 10.2.1.1 of the</p>	<p>See Appendix B</p>

<p>assessment outlines that <i>“the buffer planting to the existing riparian vegetation varies in width from a minimum of 1 m in the parts of northern extent of site, to approximately 50 m elsewhere (see Figure 35)”</i>. Detail is lacking regarding the exact extent and location of the vegetated setbacks discussed in section 10.2.1 as the plans provided showing the setbacks do not provide enough detail. The resolution of Figure 35, section 9.1 is poor and unreadable. The equivalent figure and associated plans in the Amberfield Open Space Framework document (Appendix F) also do not provide detailed information on the size and scale of the proposed setbacks. Please provide clearer details and plans on the exact extent and location of the vegetated setbacks to be retained along the Waikato River margin within the project site?</p>	
<p>70. The applicant acknowledges that the buffer planting width is “limited” in the northern extent of the project site (p. 57 section 10.2.1). As identified in the assessment, Hammonds Bush is key roosting habitat for the Hamilton bat population (Kessels & Associates Ltd, 2017, Le Roux & Le Roux, 2012). As such, it is of particular concern that the vegetation buffer/setback (discussed in section 10.2.1.1) directly opposite Hammond Park is very narrow. Without appropriate buffering, the increased light spill (and noise disturbance) from the development will likely impact feeding, commuting and roosting habitat of bats in the high-value long-tailed bat commuting corridors and habitats adjacent to the site, including the known important roosting site at Hammond Park. No assessment is provided to the likely adverse effects of insufficient buffering on feeding, commuting and roosting habitat of bats. Please provide an assessment outlining the likely adverse effects of insufficient buffering on feeding, commuting and roosting habitat of bats. The width of the</p>	<p>See Appendix B</p>

<p>vegetated buffer/set back should also be reconsidered to an appropriate width to ensure effects associated with light spill are appropriately mitigated.</p>	
<p>71. From the acoustic survey results presented in the assessment for this project, it is clear that the riparian areas in the northern extent of the project site and adjacent riparian margins along the Waikato River currently offer important bat habitat. Like most animals, the reproductive cycles of bats are mediated through light levels and illumination periods (Stone 2015). Artificial lighting can affect bat feeding behaviour and bats may be deterred from normal commuting behaviours by increased artificial light levels (Longcore and Rich 2004). Bat movement through the landscape may be compromised, leading to injury and direct mortality, and increased exposure to predation. Although the assessment mentions that road lighting will be minimised where possible, effects of artificial lighting on bats from the high levels of housing density within the project site also need to be appropriately mitigated. The on-site mitigation proposes buffers from inland lots will be planted, however these buffers will take years to establish and will not be effective in the short term. Provisions are needed to address the time lags associated with the suggested buffer planting. Please address the how the effects of artificial lighting on bats from the high levels of housing density within the project site will be managed in the short term.</p>	<p>See Appendix B</p>
<p>72. The applicant has identified that there are limited opportunities to mitigate the effects on long-tailed bats onsite for the subdivision and urbanisation of the Amberfield site. The context of the site within the wider Peacocke Structure Plan area (and the subsequent urbanisation of this area) severely restricts options for meaningful mitigation. To mitigate for the residual</p>	<p>See Appendix B</p>

<p>ecological effects the terrestrial ecology report recommends that a Trust be established that will fund conservation activities relevant to the Hamilton south long-tailed bat population (activities to be defined by funding parameters). The purpose of this would be to hold financial contributions from developers in a fund that would be used to mitigate for those effects on long-tailed bats which cannot be managed within the development context in the Peacocke Structure Plan area as a whole. In Section 5.7.2 & 7.8.3 of the AEE it states that the applicant proposes to identify an area or areas to be subject to mitigation strategies that are outside the development area, but within the Hamilton-South bat population habitat, and is continuing engagement with relevant stakeholders including Department of Conservation, Waikato Regional Council and Hamilton City Council to assist in determining the appropriate level of off-site mitigation and off-setting and the most effective initiatives to be employed. At present there is not enough detail provided to be able to gauge whether the mitigation package proposed is sufficient to off-set the likely residual ecological effects of the project on long-tailed bats. Please provide greater detail on the off-site mitigation package for bats including the Trust Structure if this off-set mitigation strategy is to be pursued and evidence that this is supported and agreed upon by appropriate stakeholders. Currently the information provided is not sufficient and it is not possible to gauge whether the residual adverse effects on bats of this subdivision are appropriately addressed.</p>	
<p><u>Vegetation Removal</u> 73. Section 9.1 of the Terrestrial Ecological Assessment (Appendix G) has identified that the proposed activity has the potential to create adverse ecological effects by removing approximately 0.019ha of high value indigenous</p>	<p>See Appendix B</p>

<p>vegetation and 5.32ha of low value vegetation. Although the vegetation loss is identified as having an overall low level of effect floristically, the location/s of the high value vegetation requires delineation and mapping. The poor resolution of the map provided in Figure 35, section 9.1 deems the figure unreadable. Please provide a map that clearly delineates the exact areas of vegetation loss within the project footprint.</p>	
<p>74. The Walking and Cycling Strategy Plan (OFS 05 – Appendix F) shows the location of the shared paths through Open Space. The Plan shows a considerable length of path within the Waikato riverbank open space area (an indicative location also appears to be depicted on the subdivision plans). Please identify the quantum of vegetation removal likely to be required and provide an assessment of the potential ecological effects.</p>	<p>See Appendix B</p>
<p><u>Construction Effects on Fauna</u> 75. For all fauna present (long-tailed bats, copper skink and non-threatened bird species) there is potential for construction activities to directly disturb, injure or kill individuals present. Although recognised there is little consideration of effects resulting from the construction process (e.g. active destruction of nest sites or direct mortality of birds, bats and herpetofauna). The Terrestrial Ecological Assessment briefly mentions that for all fauna present “there is a potential for construction activities to directly disturb, injure or kill individuals present” (in section 1.0) and that Wildlife Permit Authorities will be required during construction works, but detail is lacking regarding how these effects will be managed. Please provide further detail on the ecological effects of the construction processes and how these effects will be addressed. In particular please clearly articulated effects on long-tailed</p>	<p>See Appendix B</p>

<p>bats during construction associated with vegetation removal (roosting, feeding, commuting) and disturbance.</p>	
<p>76. Though bat sensitive lighting techniques are discussed, there has been no consideration whether there will be temporary lighting impacts during construction. Is there potential for construction works to be lit, and if so what will the potential impacts be on bats and how will these impacts be avoided?</p>	<p>See Appendix B</p>
<p>Fresh Water Ecological Effects/ICMP Requirements 77. The stream classification in the Argo Environmental Ltd (AEL) and Boffa Miskell Ltd (BML) Freshwater Ecological Assessments have used the ephemeral, intermittent and permanent stream definitions from the Auckland Unitary Plan Operative in Part (AUP OP). AUP OP definitions have been used in favour of the definitions in the Waikato Regional Plan (WRP) on the basis that the WRP does not include a definition for intermittent streams. Mapping provided and using AUP OP classifications provides different information compared to that preferred by HCC as set out in the ICMP REM which uses WRP definitions and includes mapping the boundaries of wetlands including stream associated wetland habitats. This is also an information requirement in Table 1.2.2.6b in Appendix 1 of the HCC District Plan. Please provide a map and supporting GIS data showing stream classifications using WRP definitions and including the extent and boundaries of any wetlands, including stream associated wetland areas.</p>	<p>See Appendix D</p>
<p>78. There is a recognised field assessment season for intermittent streams in the Auckland Region of July to October inclusive. This is on the basis that assessments should take place when flowing water is present in the stream, following a minimum of two months of winter flows to provide an accurate assessment of the biological values. Assessments undertaken by the applicant to date</p>	<p>See Appendix D</p>

<p>have been in November, February and April, albeit following some antecedent rainfall. Conditions during the 5 June 2018 site visit were relatively wet and flowing parts of site streams more extensive than outlined in the ecology reports. Please provide discussion on the impact that site investigation timing may have had on the observed extent of intermittent sections of stream and the potential that biological values have been underestimated as a result of survey timing. Please advise if it is proposed to re-visit the site during the July to October period to confirm the extent if intermittent stream or how the mitigation is precautionary in terms of addressing this uncertainty. This has potential implications for the quantum of mitigation needed to address stream loss.</p>	
<p>79. Fish survey used a combination of electric fishing and netting techniques. The survey does not appear to have followed the national protocol (Joy <i>et al.</i> 2013) in terms of survey timing, extent or data capture. It is therefore possible that fish diversity and abundance may have been underestimated. The fished reaches included stream sections that would be retained and be receiving environments if the development proceeds. If the fish survey data are to serve as baseline ICMP data then as a minimum the survey extent and effort needs to be confirmed and details provided ideally in GIS format as outlined in the REM. Please confirm if sufficient water was present at the time of the surveys to adequately characterise macroinvertebrate and populations and provide fish survey details including coordinates for upstream and downstream extents, number of nets, number of electric fishing passes etc.</p>	<p>The survey methodology used was based on the New Zealand freshwater fish sampling protocols as outlined in Joy <i>et al.</i> (2013). Joy <i>et al.</i> (2013) recommend that fish surveys not be conducted between May 1 and November 30. The surveys were conducted on 8-9 November. The driver for the timing of the survey was delivery of a report to the Client which meant the survey was conducted just outside the recommended period by several weeks.</p> <p>In any event, anecdotal evidence suggests that juvenile fish were undergoing migration in the Waikato River at this time which would suggest the timing in this instance was not as crucial. In addition, Dr Bruno David fish biologist of Waikato Regional Council undertook a site visit in February 2018 and indicated he was comfortable with the approach taken.</p> <p>It is considered highly unlikely that the fish diversity and abundance on the site was underestimated particularly in light of the severely perched nature of several of the streams investigated.</p> <p>All watercourses were surveyed had sufficient water and habitat available. See Appendix N for fish survey details. Appendix D Figure 3 shows the location details for fish and other surveys.</p> <p><i>[Response prepared by Argo Environmental Limited]</i></p>
<p>80. No sediment quality data are provided for the streams on</p>	<p>See Appendix D</p>

<p>site that would be receiving environments for site discharges. Stormwater design drawings show stormwater outfalls to Streams 2 and 3 and directly to the Waikato River. Sediment quality data for receiving environments are required as set out in Table 1.2.2.6b in Appendix 1 of the HCC District Plan and are required to serve as baseline ICMP data. Sampling and testing should follow the protocol set out in HCC’s Comprehensive Stormwater Discharge Consent (CSDC) monitoring plan (HCC can provide). Please provide sediment quality data for receiving streams in accordance with the methods outlined in HCC’s CSDC monitoring plan.</p>	
<p>81. Only qualitative information is provided on stream erosion status for potential stream receiving environments. An assessment of the current state of receiving environment erosion is required as set out in Table 1.2.2.6b in Appendix 1 of the HCC District Plan and would serve as baseline ICMP data. The assessment should follow HCC’s Rapid Geomorphic Erosion Assessment (RGEA) methodology (HCC can provide). Please provide an assessment of erosion susceptibility for stream receiving environments on site in accordance with the methods outlined in HCC’s RGEA methodology and including GIS data.</p>	<p>See Appendix J</p>
<p>82. Ecological values and effects have been assessed in the BML report using the EIANZ (2015) framework. The report states this framework has been used in preference to the Stream Ecological Valuation (SEV) method on the basis that the EIANZ method <i>‘allows a reflection on holistic values and features rather than a focus on an arbitrary “function representing” number of a representative reach as well as the ability to use experience and relativity when determining appropriate mitigation’</i>. Please clarify what is meant by “reflection on holistic values” with respect to the EIANZ method used.</p>	<p>See Appendix D</p>

<p>83. The use of the EIANZ framework for determining values and magnitude of impacts, does not provide a basis for determining the quantum of mitigation required, rather whether mitigation, offset or compensation efforts are needed to address effects. The SEV provides a standardised and quantitative means for determining mitigation quantum but is just one tool. If a quantitative method like the SEV is not used then some other form of ecological accounting should be provided. If mitigation of offset quantum is based on qualitative professional judgement then how the mitigation or offset addresses the effects should be fully detailed, justified and precautionary. Consistent with case law, the SEV also considers “potential” ecological function and condition, which is relevant when considering permanent stream loss. The potential value should also be considered as part of a precautionary judgement-based mitigation assessment.</p> <p>Please provide some form of ecological accounting methodology to demonstrate how aquatic ecology values and functions are addressed by the ecological mitigation, offset (or other mechanisms). Our preference is that the SEV method is applied as it is standardised and tested. However, an alternative method may be appropriate and clear justification should be provided as to why it is more appropriate.</p>	<p>See Appendix D</p>
<p>84. In light of conditions observed on the 5 June 2018 site visit are any of the “additional watercourses” referred to in Section 3.1.7 of the BML report likely to be more intermittent in nature than seepage as described. Some of the watercourses in the northern part of the site had formed channels and were flowing and therefore may be intermittent in nature. This is relevant in terms of the cumulative effect of seepage and intermittent stream</p>	<p>See Appendix D</p>

<p>habitats as a result of the proposed development (Policy 21.2.1b of the DP). Please confirm if it is appropriate to exclude the “additional watercourses” from the effects assessment in light of channel and flow conditions observed on the 5 June 2018 site visit and any reasoning, including specific reference to potential conditions anticipated to occur between July to October.</p>	
<p>85. Further to the above, please confirm if the values conclusions set out in Table 5 of the BML report are still appropriate. For example, limited connectivity within intermittent reaches is referred to as reasoning but may be better if assessed during the July to October window.</p>	<p>See Appendix D</p>
<p>86. HCC District Plan Policy 21.2.1c states that that “the ecological functions of waterways shall be restored and protected by minimising the modification of natural watercourses and riparian margins”. Neither the BML report nor the AEE or ICMP documents describe how the proposal has considered avoiding or minimising stream loss. The BML report reaches the conclusion that the loss of stream habitats with low ecological value is moderate in magnitude on the basis that post development character/composition/attributes of baseline will be partially changed. This does not take into account potential value and the proposal to completely fill extensive headwater areas which is considered a “fundamental change” (with reference to the EIANZ guidelines). The BML report (and AEE) go on to recommend mitigation in the form of riparian planting and offset in the form of stream channel creation through parts of the Watercourse 3 system. However, there is no ecological accounting or breakdown to specifically outline how the mitigation and offset balances the impacts. More detail is needed on the justification for the quantum of mitigation proposed. At this stage there will be an overall loss of stream habitat. Please</p>	<p>See Appendix D</p>

<p>advise how stream loss has been avoided and minimised and provide more clarity on how the proposed mitigation relates to identified habitat loss effects. Please include full justification for the quantum of mitigation proposed and how the ecological mitigation or other project features will adequately mitigate or offset the various stream values and functions that will be permanently lost.</p>	
<p>87. The BML report and the AEE reach a conclusion that water quality and ecological effects will be no more than minor on the basis that Waikato Regional Plan requirements for erosion and sediment control are implemented during earthworks. There is no assessment of effects related to the specific receiving environments but the drawings provided with the application materials show discharges from treatment devices direct to the Waikato River bank and to the main gully (Watercourse 3). The BML assessment states effects will be avoided but there will inevitably be sediment discharges to surface water and potential effects on water quality and aquatic fauna (species migration for example). There is also no detail on any discharge or receiving environment monitoring proposed. Please provide an assessment of potential water quality and ecological effects for erosion and sediment control discharges specific to identified receiving environments. Please provide an overview of the monitoring proposed.</p>	<p>See Appendix D</p>
<p>88. Receiving environment effects as a result of stormwater contaminant discharges have not been assessed in detail, although this is required by the HCC District Plan Appendix 1 Table 1.2.2.6b. This is more important for the site stream receiving environments (design drawings show some discharge points to Watercourses 2 and 3) as opposed to the Waikato River, although the main river should be addressed. A no more than minor effects conclusion has been reached on the basis that “<i>stormwater treatment</i></p>	<p>See Appendix D and Appendix J</p>

<p><i>systems are designed to treat stormwater to the permitted standards outlined in the Waikato Regional Plan</i>". This is a vague conclusion and it is not clear from the information provided what those standards are, if they are protective for the specific receiving environments for the development or if water quality will be maintained or improved with respect to stormwater contaminants as is anticipated by the NPS for Freshwater Management. The means of compliance table in the Sub-catchment ICMP includes no specific standards and there is no recommended monitoring. Please provide an assessment of potential water quality and ecological effects for stormwater discharges specific to identified receiving environments, including an assessment of long-term cumulative effects as required by HCC District Plan Appendix 1 Table 1.2.2.6b and any monitoring recommendations.</p>	
<p>89. There may potentially be changes to receiving environment hydrology as a result of the development. This is also required to be addressed by HCC District Plan Appendix 1 Table 1.2.2.6b. Some brief commentary on this issue is included in the Sub-catchment ICMP but it is not clear how the development, the soakage solution and the proposed sub-surface drainage will impact on stream hydrology and therefore stream habitat availability, quality and connectivity. For example, will soakage discharges preferentially follow the subsurface drainage network proposed for some parts of the site and therefore reduce base flows in receiving environment streams (Watercourse 2). Direct discharges to Watercourse 3 may also result in elevated peak flows and have potential for stream erosion. Please provide more detail on potential effects on stream receiving environments as a result of changes to hydrology covering base flows and peak flows. Please relate peak flow</p>	<p>See Appendix J</p>

<p>assessments to the stream erosion assessment referred to in Further Information Request 81. above.</p>	
<p>Urban Design</p>	
<p>90. Section 4 of the Urban Design Report (Appendix D) discusses possible design concepts for the Neighbourhood Centre that could be accommodated within the two proposed 'super lots'. The AEE states that further resource consents will be required before these super lots can be developed. Figure 4-3 depicts indicative neighbourhood centre concepts. It would assist if the concepts could provide a legend for the respective colours with a table showing the approx. gfa for retail/commercial for each concept.</p>	<p>Urbanismplus have updated the relevant pages of the Urban Design Report (pages 29-32 – Appendix E attached). A legend has been added to the Neighbourhood Centre design concepts, and the approximate GFAs for retail and commercial for all three possible options are stated in the text, as well as the potential number of residential lots for each option, instead of the range of areas and dwellings. <i>[Response prepared by Urbanism+]</i></p>
<p>91. The Urban Design Report (Appendix D) in Section 5 discusses the residential environment design approach, and dwelling design (section 5.8 & 5.9). Please advise if further controls/conditions are required to achieve the envision urban design outcomes beyond the standards of the District Plan that will apply to detached single dwellings on the respective residential lots.</p>	<p>The Urban Design Report (Appendix E) has been prepared with a level of detail provided in sections 5.8 and 5.9 to respond to the information requirements of the District Plan. For the development of detached single dwellings no further controls/conditions are required beyond the standards of the District Plan. However the subdivision has been designed in response to the Subdivision Design Guide in Appendix 1.4.1 of the District Plan so as to achieve high levels of amenity through attention to block and allotment layout and orientation, public interfaces, public open space and accessways, the transport network layout and landscaping. Beyond the single dwelling (duplexes, apartment buildings, and integrated residential developments) proposed developments will require consents and the District Plan residential design guide must be referred to by an applicant for guidance on the outcomes sought. It is proposed that the contents of the Urban Design Report are also to be referred to in the assessment undertaken. Weston Lea may use private covenants in some parts of the site, but it is not appropriate/ necessary for the Council to be involved in design standards for individual dwellings beyond those that relate to the implementation of the district plan standards. <i>[Response prepared by Merestone Limited]</i></p>

<p>92. Section 5.7 of the Urban Design Report (Appendix D) discusses the provision for future Medium Density Development, wherein the masterplan design anticipates medium density housing (duplexes or terraced dwellings) on smaller lots to be applied for in future applications, should there be sufficient demand. Reference is made to 41 parent lots that could be further developed with 88 medium density dwellings as shown located in Figure 5.3. Please advise the mechanism the applicant envisages to achieve this urban design outcome.</p>	<p>Similar to the response to Item 91, the development of medium density housing will primarily be via the implementation of the district plan standards. As noted, the application has 41 parent lots in a preferred location for the development of up to 88 medium density dwellings. This preference can be secured through the master plan consent. Development of medium density elsewhere is able to be controlled by the district plan within an overall density that is consistent with Waikato RPS and district plan density targets. <i>[Response prepared by Merestone Limited]</i></p>
<p>Planning/General</p>	
<p>Land Use Activities Requiring Consent</p> <p>93. The AEE report Table 2.1: Consent Requirements for Land Use has not identified the following activities that require consent:</p> <ul style="list-style-type: none"> • Lifeline Utilities Stormwater Infrastructure only (at ground level) in the Waikato Riverbank and Gully Hazard Area (rule 22.3qq)) • Lifeline Utilities (below ground level) in the Waikato Riverbank and Gully Hazard Area (rule 22.3ss)) • Pump stations (rule 25.7.3nn)) <p>Please confirm consent is also sought for these activities and identify where in the supporting documentation the environmental effects of these works are addressed or otherwise provide an appropriate level of assessment.</p>	<p>Updated drawings are included in Appendix 1 of the report ‘Civil Infrastructure Responses to HCC Further Information Request’ (refer to Appendices J and P) which show all of the proposed utilities that will be located within the Riverbank and Gully Hazard Area overlay based on the preliminary engineering design. ‘Lifeline utilities’ includes electricity, telecommunications, water, wastewater, stormwater and roads. We confirm that consent is required and being sought for the stormwater utilities that are at ground level as a Non-Complying Activity in accordance with Rule 22.3 qq) and for the other utilities that are below ground level as a Non-Complying Activity in accordance with Rule 22.3 ss).</p> <p>In addition, there are four pump stations proposed, one of which (on Lot 1101) is located within the Riverbank and Gully Hazard Area overlay. Rule 25.7.3 nn) lists “Pump stations and aerial crossings on bridges or structures or over water courses and other depressions” as a Restricted Discretionary Activity. We do not consider that this is relevant to the proposed pump stations as they will not be located on bridges or structures or over water courses and other depressions. The pump station that is within the Riverbank and Gully Hazard Area overlay requires resource consent as a Non-Complying Activity under Rule 22.3ss (as above).</p> <p>The Assessment of Environmental Effects that was submitted with the resource consent application has considered the effects of the subdivision and associated land development activities as a whole, including all of the network utilities.</p>

	<i>[Response prepared by Harrison Grierson Limited]</i>
<p>94. The AEE report Table 2.1: Consent Requirements identifies some of the proposed retaining walls to be constructed as part of the subdivision works will exceed the maximum 1.8m height standard for walls. Appendix B: Rule Compliance assessment states under Rule 5.4.8 that the indicative height of the proposed retaining walls is shown on the engineering drawings, and the indicative heights are up to 3.3m but typically less. It does not appear that the retaining walls are shown on the engineering plans. Please provide details (height, location) of all the retaining walls proposed as part of the subdivision works and provide an assessment on the visual amenity effects of the retaining walls where exceeding the permitted standards.</p>	<p>Retaining walls are shown on the finished contour plans in Appendix W (reference 141842-1211 to 1216). The indicative heights of the retaining walls are shown by references to top of wall and bottom of wall heights.</p> <p>There are two retaining walls shown without design heights on drawing 141842-1211 along the northern boundary of Lot 1506 and on drawing 141842-1216 along the western boundary of Lot 1101. The notes on the drawings identify that whether those two retaining walls will be required or not will be determined at detailed design stage. If they are required, it is likely that both of the retaining walls may be up to approximately 3m in height.</p> <p>The requirement for retaining walls has been largely designed out of the earthworks with mid lot batter slopes (with associated deep lots) included where terrace slopes are accommodated. There are a small number of locations where walls are proposed / required the majority of which are located away from public locations. As noted on the H&G earthworks plans the final requirement and heights of any retaining walls will be determined at the Detailed Design stage with the intent being to limit the requirement for and height / length of any wall.</p> <p>The main stretch of retaining wall – refer H&G dwg 141842-1212 – is located within the east facing lots below the Knoll Reserve. This retaining wall, which is some 165m long across 7 lots and a walkway to the Knoll Reserve (this walkway will be graded or include steps to be determined working with Council / Parks at the time of detailed design) sits within the lot set back some 8m to 10m from the street front boundary with the intention of future houses sitting across the change in level. There is a short section of retaining wall at the northern end of the Knoll Reserve on the street frontage of the park, refer H&G dwg 141842-1211. This wall has an overall length of approx 45m and grades down to enable level pedestrian access into the Knoll Reserve at the street corner and mid-way along the reserve. At the Detailed Design stage the height of this wall and / alternatives to including a wall will be further explored. If required the wall will be attractively designed as a streetfront boundary to the Reserve potentially including signage, if</p>

required a fence to comply with safety from falling standards will be provided. The purpose of the Knoll Reserve is to retain the natural high point landform and associated mature, good quality trees which provide a significant amenity to the neighbourhood. It is not unusual for parks to have boundary retaining walls, any potential adverse landscape or visual effects can be addressed through appropriate quality design. The elevation within the park can provide a north facing high point outlook enhancing the amenity of the parkland for its users.

Retaining walls may be required around the existing property, not forming part of the site, that adjoins Peacocke Road – refer H&G dwg 141842-1212. This condition is somewhat temporary as that property will also be affected by the re-alignment of Peacocke Road. These walls, if indeed they are required, are oriented away from public view at the rear of lots. Once houses are established they will have minimal impact. A similar potential for retaining walls along the adjoining boundary to properties beyond the site occurs on the north-western boundary – refer H&G dwg 141842-1211. These are rear boundary walls and cut down from the adjoining land such that, if required, they will have minimal impact.

The only other locations where retaining walls are potentially required, to be confirmed at Detailed Design, are located on ‘The Island’ (refer H&G dwg 141842-1216) in the vicinity of the archaeological reserve where again the landform needs to be contoured to meet the existing fixed levels of the proposed protected archaeological area. There are a series of lots to the north of the Archaeological Reserve, on the other side of the street to the Archaeological Reserve, where rear and side lot retaining walls are likely to be required in order to ‘turn the corner’ and grade between the lots. No streetfront retaining walls are proposed and in time with the residential development of these lots the walls will become integrated within the curtilage and largely obscured. A small, approx 30m long, retaining wall to the east of this may be potentially required to hold up the road adjacent to the proposed pump station adjacent to the esplanade reserve. The face of the wall will have limited visibility as there is no shared path below the pump station and significant vegetation along the river edge.

In summary therefore, for the scale of the development, there are very few

	<p>potentially proposed retaining walls with, due to their particular location, very limited impact on the public amenity of the overall Amberfield development. <i>[Response prepared by Merestone Limited and Boffa Miskell Limited]</i></p>												
<p>Certificates of Title 95. Appendix S of the AEE provides copies of the Certificates of Title for the site which show a number of registered instruments. Please provide a copy of any relevant interests pertinent to the assessment of the proposed development and if affected how they will be addressed.</p>	<p>Copies of the following registered interests are enclosed in Appendix F:</p> <table border="1" data-bbox="927 411 1921 919"> <thead> <tr> <th data-bbox="927 411 1258 448">Instrument Reference</th> <th data-bbox="1258 411 1590 448">Certificate of Title</th> <th data-bbox="1590 411 1921 448">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="927 448 1258 520">R235/556</td> <td data-bbox="1258 448 1590 520">SA528/20</td> <td data-bbox="1590 448 1921 520">Redundant drainage easement (dated 1914).</td> </tr> <tr> <td data-bbox="927 520 1258 592">R338/233</td> <td data-bbox="1258 520 1590 592">SA60A/826</td> <td data-bbox="1590 520 1921 592">Redundant fencing covenant (dated 1920).</td> </tr> <tr> <td data-bbox="927 592 1258 919">B416556</td> <td data-bbox="1258 592 1590 919">SA528/20 and SA60A/826</td> <td data-bbox="1590 592 1921 919">Covenant under s240 RMA. Requires the two titles to be held together. The proposal seeks subdivision of these titles so new titles will be created. Accordingly the covenant will become redundant.</td> </tr> </tbody> </table> <p>A more detailed summary of documents R235/556 and R338/233 is also enclosed in Appendix F.</p> <p>None of these interests impacts on the subdivision, nor are any resolutions from Hamilton City Council required to remove them. R235/556 and R338/233 are in the process of being removed from the titles. <i>[Response prepared by Harrison Grierson Limited]</i></p>	Instrument Reference	Certificate of Title	Description	R235/556	SA528/20	Redundant drainage easement (dated 1914).	R338/233	SA60A/826	Redundant fencing covenant (dated 1920).	B416556	SA528/20 and SA60A/826	Covenant under s240 RMA. Requires the two titles to be held together. The proposal seeks subdivision of these titles so new titles will be created. Accordingly the covenant will become redundant.
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<p>Easements</p> <p>96. Please show all proposed easements on the scheme plans.</p>	<p>All of the proposed easements are shown on drawing 141842-9023 in Appendix T of the resource consent application. This drawing forms part of the scheme plan set of drawings referenced as 141842-9000 to 141842-9025.</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>97. Appendix 5 of the Civil Infrastructure Report (Appendix O) includes a letter from WEL Networks dated 9 May 2018, which states ‘An easement will be required over the existing 11kV line in favour of WEL Networks Ltd, which currently runs through Precinct 1 on this property, if it is not relocated into road reserve. Further easements will be required in favour of WEL Networks Ltd over any electrical reticulation installed along private right of ways.’ Please confirm whether or not the 11kV line is to be relocated into road reserve and if a terminated structure will be required and where this will be located.</p>	<p>The 11kV line is proposed to be relocated into the road reserve and the esplanade reserve. Easements will be registered over the electricity line if there are any parts of the line that are required to be located within the balance lot due to the staging of the subdivision. In that case the easements would be revoked at a later date when the road or reserve land is vested.</p> <p>A terminal structure will be required and is intended to be sited within either the road or esplanade reserve. The location will be determined in consultation with WEL Networks at detailed design stage.</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>Esplanade Reserve</p> <p>98. Please confirm that the proposed esplanade reserve width adjacent to Pump Station 3 is a minimum of 20 metres as it cannot be confirmed on scheme plan 141842-9016.</p>	<p>The esplanade reserve will be minimum 20m wide at the point adjacent to Pump Station 3. Survey information in this location confirms that the final width of the esplanade reserve may be marginally wider than 20m. Refer to the drawing referenced as 141842-SK9058 in Appendix G.</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>Statutory Assessment of Main Policy Themes</p> <p>99. Section 7.8.1 Development Form and Density of the AEE and the HCC District Plan Objective and Policy assessment in Appendix A has not specifically addressed the Structure Plan and Peacockes Structure Plan Objectives and Policies relating to avoidance of landform modification, in particular the modification proposed to that part of the site identified in the Hill Character Area. In response to Further Information Request 55. above, please provide an assessment of the proposed landform modification of the Hill Character Area of the site against the relevant objective and policies.</p>	<p>Refer to response to Item 55 in Appendix A.</p>

<p>100. The HCC District Plan Objective and Policy assessment in Appendix A of the AEE has not addressed Peacockes Structure Plan Policy 3.4.1.1c 'Encourage lower density development (lot sizes of 800m2+) along the gully network.' Please comment on the consistency of the proposed development with this policy.</p>	<p>The context of the policies responding to Objective 3.4.1.1 on significant natural areas within the Peacocke Structure Plan area is strongly suggestive that the 'gully network' referred to in Policy 3.4.1.1c is the Mangakotukutuku Gully. The reference to 800m2 lot sizes is also a reference to the minimum lot sizes for the Gully Area (see Table 5.4.1b). Figure 2.3 of the Structure Plan depicts the various land types – Terrace, Hills and Gully. There is no Gully Area within the application area, and the Gully Area is focussed on the middle Mangakotukutuku Gully catchment. It is therefore considered that this policy is not relevant. Nevertheless, with reference to the application Appendix D, Urban Design Report Figure 5.3 indicates that the location of larger lots are located along the gully and Waikato River margin, consistent with the policy. The location of lots has sought to balance the conflicting policies in the District Plan, being Policy 3.4.1.1c and Policy 3.4.1.5a, the latter of which seeks to increase, as opposed to decreasing density, adjacent to open space areas.</p> <p><i>[Response prepared by Merestone Limited]</i></p>
<p>101. The HCC District Plan Objective and Policy Assessment in Appendix A of the AEE has not addressed the Waikato River Corridor and Gully Systems Objectives and Policies (Chapter 21). These objectives and policies are particularly relevant to the proposed development. Please provide an appropriate level of assessment.</p>	<p>See Appendix H</p>
<p>Rule Compliance</p> <p>102. The HCC District Plan Rule Assessment in Appendix B of the AEE has stated the standards for vegetation clearance and earthworks within the Waikato Riverbank and Gully Hazard Area (rule 22.5) will be complied with. In response to Further Information Request 63. above, please review the assessment of compliance against the applicable standards in rule 22.5.</p>	<p>Table 2.1 and Appendix B of the resource consent application both identify that resource consent is being sought for earthworks within the Waikato Riverbank and Gully Hazard Area overlay as a Discretionary Activity in accordance with Rule 22.3 p). The standards in Rule 22.5 are not relevant to the activity status (in accordance with Rule 1.1.7). Nevertheless, the detailed design for all earthworks and activities within the Waikato Riverbank and Gully Hazard Area overlay will be progressed to ensure that suitable stability is achieved.</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>103. The HCC District Plan Rule Assessment in Appendix B of the AEE identifies that there are 12 corner lots which will</p>	<p>The rule compliance check in Appendix B of the resource consent application identifies that 12 lots do not comply with Rule 23.7.1 (l). However, a further</p>

<p>not comply with the 15m diameter shape factor circle for residential lots in the Peacocke Character Zone (Terrace Area) – rule 23.7.1l). Please identify the non-complying lots.</p>	<p>review has identified a total of 13 lots that do not comply. The non-compliant lots are Lots 187, 197, 199, 256, 378, 444, 633, 635, 649, 770, 773, 849 and 853. <i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>104. The HCC District Plan Rule Assessment in Appendix B of the AEE identifies that rule 23.7.3a) & b) relating to front boundary lengths for front lots is infringed for a number of lots. Based on the definition of ‘Front Site’ (see definition of ‘Site’) please re-assess if the lots reference in the assessment are all non-compliant.</p>	<p>The rule compliance check in Appendix B of the resource consent application identifies that 7 lots do not comply with Rule 23.7.3 (a) and (b). However, following a further review based on the definition of ‘front site’ there is only one lot that will not comply with Rule 23.7.3 (a) which is Lot 832. <i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>105. The HCC District Plan Rule Assessment in Appendix B of the AEE identifies non-compliances with the standards for the location and separation distances for vehicle crossings (rule 25.14.4.1a) & c)) for a number of lots. Please identify the non-complying lots and provide an appropriate assessment of effects.</p>	<p>The drawings in Appendix W of the resource consent application show the ‘possible driveway locations’ for all of the proposed residential lots (Drawings 141842-1301-1323). The final locations will not be able to be confirmed until detailed design has been completed.</p> <p>The preliminary design shows non-compliances with respect to Rule 25.14.4.1 (a) in locations at the end of cul-de-sacs where it is not practicable to achieve compliance. However, in those locations traffic speeds will be low and the potential for conflicts to arise is low.</p> <p>Non-compliances with respect to Rule 25.14.4.1 (c) are due to driveways to some of the corner lots not being able to be located a sufficient distance from intersections to comply. In those situations the vehicle crossings will be sited at the end of the frontage to each lot so that they as far away as possible from the adjoining intersection. This is the best possible outcome that can be achieved to minimise potential for conflict. <i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>106. The HCC District Plan Rule Assessment in Appendix B of the AEE states that the design and access widths for the two proposed shared internal vehicle accesses that are greater than 70m in length will comply with the standards in rule 25.14.4.1j). Please demonstrate that the internal vehicle access Lot 1250 on scheme plan 141842-9003 will comply with rule 25.14.4.1j)ii) or otherwise show how</p>	<p>Rule 25.14.4.1 (j)ii) requires a passing bay where the access is less than 5.5m wide and has a length greater than 70m or where unrestricted visibility is not available over its full length. Lot 1250 will have a total length of approximately 100m. Based on the landscape concept for the adjoining reserve (Lot 1501) in Appendix F (drawing number A17134_120) it is likely that visibility may not be available over the full length of the right of way.</p>

<p>passing bays can be accommodated.</p>	<p>The proposed width of the right of way easement is 6m and it will service 7 lots. The diagram 'Standard Residential Privateways' (D3.1.6) in the Hamilton Infrastructure Technical Specifications shows the required standard for a private way servicing 5-10 household units. The required carriageway width is 4.8m which is sufficient to enable to vehicles to safely pass one another at low speeds. A passing bay is therefore not considered necessary.</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>107. The site is within the area subject of the Airport Protection Overlay. Please confirm based on the proposed contours that dwellings complying with permitted height standard for the Peacocke Character Zone will not infringe rule 25.4.4.5 – Height of Structures – Horizontal and Conical Obstacle Limitation Surfaces.</p>	<p>The site is located partly within the Horizontal Obstacle Limitation Surface area and partly within the Conical Obstacle Limitation Surface area. The Horizontal Obstacle Limitation Surface has the most limiting constraints as the height limit for buildings, masts trees or other objects is 102m Moturiki Datum. The permitted height increases within the Conical Obstacle Limitation Surface area as the distance from the airport increases.</p> <p>The proposed finished ground levels are shown on finished contour plans in Appendix W which are referenced as 141842-1211 to 1216. The maximum finished ground level height is approximately 54m which is measured in terms of the NZ Vertical Datum 2016. This datum is very similar (within 300mm) to the Moturiki Datum. Accordingly there is no risk of buildings, masts trees or other objects penetrating the obstacle limitation surfaces.</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>Subdivision Staging Plans</p> <p>108. Section 3.3 of the AEE refers to indicative staging of the development as identified on the scheme plan 141842-9025. It would be helpful if this plan could be presented showing the proposed open space areas within the respective stages.</p>	<p>The staging on drawing 141842-9025 does show the proposed areas of open space to vest. Lot numbers and staging is also shown on the other scheme plan drawings (references 141842-9001 to 141842-9022).</p> <p><i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>S176 RMA Requiring Authority Approval</p> <p>109. Section 3.6.3 of the AEE notes that approval will be required from Hamilton City Council for works within the existing designation over Peacockes Road. Such approval may also be required depending on final design and</p>	<p>Discussions have been had over preceding months with Andrew Parsons in relation to the use of the Council's Southern Links designation for both roading and wastewater purposes. The use of the designation enables the co-location of infrastructure and the co-ordination of infrastructure provision that provides benefits for all parties. It is anticipated that discussions will be held prior to the</p>

<p>construction approach for the wastewater main alignment within the Southern Links Designation. Please provide any consultation outcomes with the Requiring Authority and advise at what stage it is proposed to seek the written consent.</p>	<p>hearing on overall infrastructure provision for the development. In that context we also anticipate that approval for the use of the designation will be provided, at least in principle pending the granting of resource consents. Our aim will be to ensure that the use of the designation can be positively reported in the section 42A report. <i>[Response prepared by Harrison Grierson Limited]</i></p>
<p>S106 RMA Natural Hazards 110. The AEE makes reference to natural hazards in section 7.8.7 Management and response to natural hazards. In this section flooding and land instability are identified as the key potential risks, however this does not reference the geotechnical report or discuss the wide range of natural hazards that can affect the site. Section 7.8.7 of the AEE makes reference to Chapter 22 objectives and policies, however there is no specific reference to S106 of the RMA. Please provide an assessment against S106 of the RMA, taking into account the further geotechnical information requested above.</p>	<p>It is not clear what “<i>the wide range of natural hazards</i>” are that this request item refers to, other than flooding and geotechnical hazards which are comprehensively assessed in the resource consent application. Flooding is addressed in the SC-ICMP, and particularly in Appendix H (Waikato River Adare Flood Hazard Report) and Appendix I (Model Build Report). Geotechnical matters are addressed in the Geotechnical Investigation Report prepared by Engeo which is in Appendix J of the resource consent application, as well as the further information response prepared by Engeo which is included in Appendix I of this response. In addition, a peer review has been commissioned at the request of HCC to respond to Item 35 which is being undertaken by HD Geotechnical and due to be issued shortly. The hazard assessment has therefore been detailed and thorough.</p> <p>Section 106 of the Act sets out that a consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that there is a significant risk from natural hazards. The matters listed in section 106(1A) are relevant in terms of whether the risk from natural hazards is likely to be significant. The assessments in relation to flooding and geotechnical hazards demonstrate that there are no significant risks that cannot be managed. In particular, the likelihood of flooding occurring is low due to the finished levels that have been proposed. The likelihood of flooding from a dam burst event is very low such that WRC has confirmed that development within the dam break extent does not need to be avoided. Geotechnical matters can be addressed through earthworks design and consent conditions are anticipated accordingly. <i>[Response prepared by Harrison Grierson Limited]</i></p>